

## WHAT IS CLAIMED IS:

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1. A microscopy laboratory system comprising:  
a plurality of student microscopes;  
a plurality of cameras associated one with each of said plurality of student microscopes for generating an image signal representing a student view image of at least a portion of the field of view of said student microscope;  
multiplexed control means connected to said plurality of cameras for receiving said image signals and enabling an instructor to select a set of said image signals for display, wherein said multiplexed control means generates an instruction image signal generated from said selected set of image signals; and  
display means connected to said multiplexed control means for receiving said instruction image signal and displaying an instruction image comprising student view images corresponding to said selected set of image signals.

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2. The microscope laboratory system according to claim 1, further comprising an instructor microscope and a camera for generating an image signal representing an instructor view image of at least a portion of the field of view of said instructor microscope, wherein said multiplexed control means is connected to said camera associated with said instructor microscope to receive said image signal generated thereby, whereby said instruction image optionally comprises said instructor view image.

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3. The microscopy laboratory system according to claim 1, wherein said multiplexed control means allows said instructor to select all of said image signals from said cameras associated with said plurality of student microscopes as said selected set.

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4. The microscopy laboratory system according to claim 2, wherein said multiplexed control means allows said instructor to select all of said image signals from said cameras associated with said plurality of student microscopes as said selected set.

5. The microscopy laboratory system according to claim 1, wherein said multiplexed control means allows said instructor to select said image signal from said camera associated with any one of said plurality of student microscopes as said selected set.

5 6. The microscopy laboratory system according to claim 2, wherein said multiplexed control means allows said instructor to select said image signal from said camera associated with any one of said plurality of student microscopes as said selected set.

10 7. The microscopy laboratory system according to claim 1, wherein said multiplexed control means allows said instructor to select said image signals from cameras of a predetermined sub-group of said plurality of student microscopes as said selected set.

15 8. The microscopy laboratory system according to claim 2, wherein said multiplexed control means allows said instructor to select said image signals from cameras of a predetermined sub-group of said plurality of student microscopes as said selected set.

20 9. The microscopy laboratory system according to claim 7, wherein there is a plurality of different predetermined sub-groups of said student microscopes.

25 10. The microscopy laboratory system according to claim 8, wherein there is a plurality of different predetermined sub-groups of said student microscopes.

11. The microscopy laboratory system according to claim 2, wherein said multiplexed control means allows said instructor to select said image signal from said camera associated with said instructor microscope as said selected set.

30 12. The microscopy laboratory system according to claim 1, further comprising a display image marker connected to said multiplexed control means for enabling said instructor to annotate said instruction image.

13. The microscopy laboratory system according to claim 2, further comprising a display image marker connected to said multiplexed control means for enabling said instructor to annotate said instruction image.

5 14. The microscopy laboratory system according to claim 1, further comprising a computer connected to said multiplexed control means, said computer having a memory, whereby said instruction image and said student view images can be stored in and retrieved from said memory.

10 15. The microscopy laboratory system according to claim 2, further comprising a computer connected to said multiplexed control means, said computer having a memory, whereby said instruction image, said student view images, and said instructor view image can be stored in and retrieved from said memory.

15 16. The microscopy laboratory system according to claim 1, wherein said multiplexed control means comprises means for selectively superimposing respective identification information on each said student view image in said instruction image.

20 17. The microscopy laboratory system according to claim 2, wherein said multiplexed control means comprises means for selectively superimposing respective identification information on each said student view image in said instruction image.

25 18. The microscopy laboratory system according to claim 1, wherein said multiplexed control means comprises means for magnifying said instruction image.

19. The microscopy laboratory system according to claim 2, wherein said multiplexed control means comprises means for magnifying said instruction image.

30 20. The microscopy laboratory system according to claim 1, wherein said connection between said multiplexed control means and said plurality of cameras comprises a wireless connection.

21. The microscopy laboratory system according to ~~claim 1~~, wherein said connection between said display means and said multiplexed control means comprises a wireless connection.

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